ABSTRACT

This invention provides a soldering iron that heats the tip and emits inert gas near the tip. This is accomplished by providing a heater cartridge having a top or tip end and a base end with a soldering tip at the top end, an input opening closer to the base end and an output opening closer to the top end. The soldering iron also includes a gas injector having a gas chamber adapted to receive the heater cartridge such that the input opening of the heater cartridge is within the gas chamber so that gas is injected into the input opening. At least a portion of the top end and the output opening of the heater cartridge is enclosed with an exhaust pipe to form a gas passage between the outer surface of the heater cartridge and the exhaust pipe. As such, gas injected through the input opening passes through the opening within the heater cartridge and exit through the output opening, then pass through the gas passage and emit through an outlet defined by the space between the top end and the exhaust pipe to provide inert gas near the tip.